THE400 MINI

USER MANUAL

ATARI

RETRO GAMES

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THE400 Mini User Manual – v1.0.0 – 2024-March-25

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PRECAUTIONS

SEIZURES

A very small number of people may experience seizures or blackouts triggered by flashes of light or particular patterns of color. This may happen even if they have never had a seizure before. Video games, some of which employ effects such as color-cycling or screen-flashing, may trigger these symptoms.

- Anyone who has had a seizure, blackout, loss of awareness or any symptom related to an epileptic condition should consult a doctor before using **THE400 Mini**.
- Stop using **THE400 Mini** immediately and consult a doctor if you or anyone using or viewing **THE400 Mini** experiences dizziness, eye or muscle twitches, disorientation, affected vision, involuntary movements, convulsions or seizures. Only resume after consulting with a doctor.

To reduce the chances of a seizure while using **THE400 Mini**:

- Use **THE400 Mini** in a well-lit area.
- Ensure the monitor or TV screen does not take up a large portion of your field of vision, by keeping a sensible distance away from the screen and/or using a small screen.
- Do not use **THE400 Mini** if you are tired or need sleep.
- Take a 15 minute break every hour, even if you don't think you need it.

REPETITIVE MOTION INJURIES

To reduce the chance of injury due to repetitive motion:

- Avoid excessive play.
- Take a 15 minute break every hour, even if you don't think you need it.
- If your hands, wrists or arms become sore while playing, or if you experience tingling, numbness, burning or stiffness, stop immediately and rest for several hours before playing again.
- If you continue to experience any of the above symptoms during or after using **THE400 Mini**, consult a doctor.

EYESTRAIN AND MOTION SICKNESS

Continuous play can cause your eyes to hurt, and some games may cause some players to experience motion sickness. If you or anyone using or viewing **THE400 Mini** experience these symptoms, stop immediately and rest. Do not drive or engage in any other demanding activity until the symptoms subside.

To reduce the chances of these symptoms:

- Take a 15 minute break every hour, even if you don't think you need it.
- If you are prone to motion sickness, try to identify which games include the kinds of motion that trigger these symptoms, and avoid them.

ELECTRIC SHOCK

To avoid electric shock when you use **THE400 Mini**:

- Do not expose **THE400 Mini** to liquids, high temperatures, high humidity, steam, direct sunlight, excessive dust or smoke.
- Do not allow small particles or any foreign objects to get inside **THE400 Mini**.
- Do not touch **THE400 Mini** or any connected cables during an electrical storm.
- Do not touch any of the metal parts of the connectors on **THE400 Mini**.
- Do not use any power cables, HDMI cables or peripherals if they are split, frayed or otherwise damaged.

VENTILATION

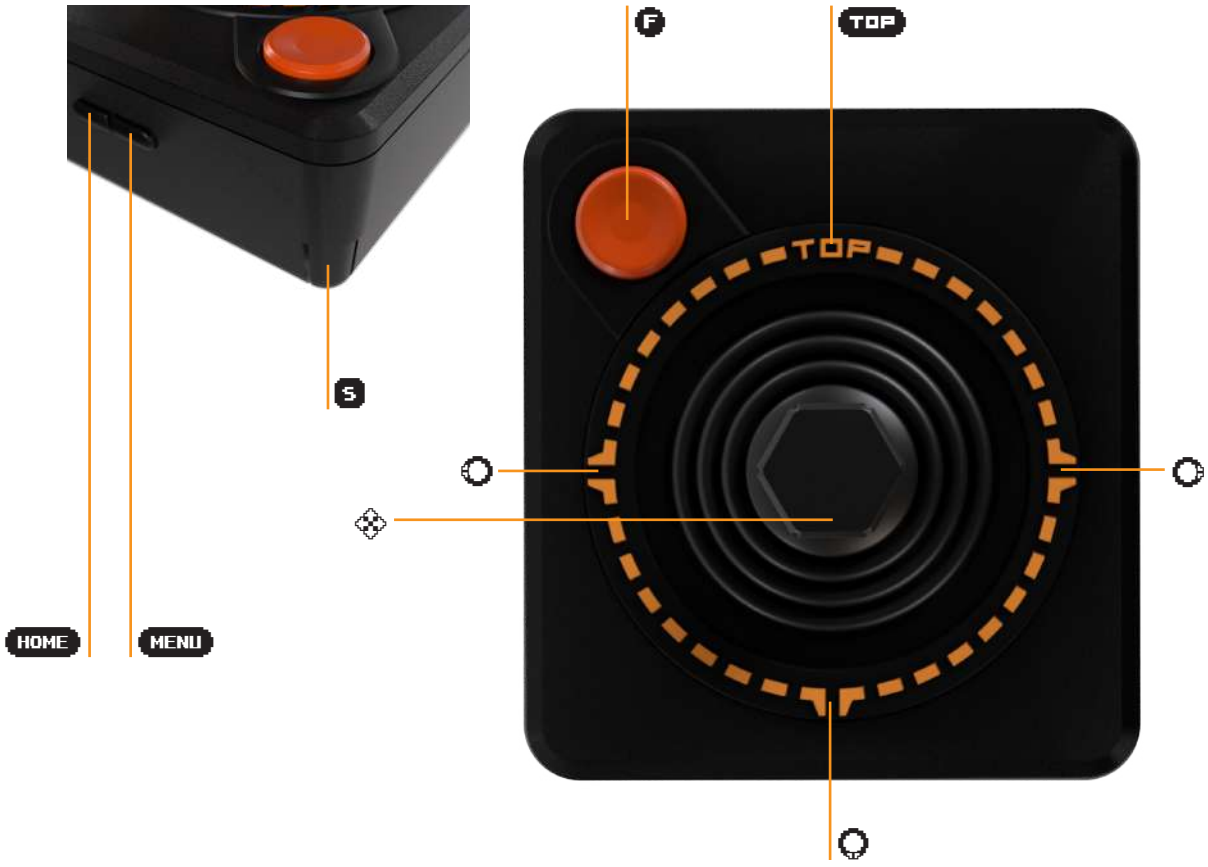
To avoid **THE400 Mini** overheating in use:

- Place on a flat, even surface.
- Do not place it on a rug or carpet with long fibres.
- Allow plenty of airflow through the grilles on the top and bottom of the case.
- Do not allow dust to build up on the grilles.
- Do not cover **THE400 Mini** or use it in an enclosed cabinet or other location where heat may build up.
- Do not place in a narrow or cramped space.

HANDLING AND USE

- Only connect the following devices to the USB ports: keyboards, mice, controllers, memory sticks, powered hubs, keyboards.
- Ensure that the power adapter can supply sufficient power for **THE400 Mini** and connected devices.
- Make sure all cables are connected only to the correct ports, and make sure to hold plugs straight when inserting.
- Keep **THE400 Mini** and all cables and peripherals out of the reach of young children.
- Do not position **THE400 Mini** where it or any connected cables might cause someone to trip or stumble.
- Do not drop, hit or otherwise abuse **THE400 Mini** or any cables or peripherals.
- Some gameplay and game features may be different from when originally played on an Atari 8-bit computer.
- Do not power off **THE400 Mini** whilst data is being loaded or saved.

PLAYER ONE USB PORT
PLAYER TWO USB PORT
PLAYER THREE USB PORT
PLAYER FOUR USB PORT
POWER INDICATOR

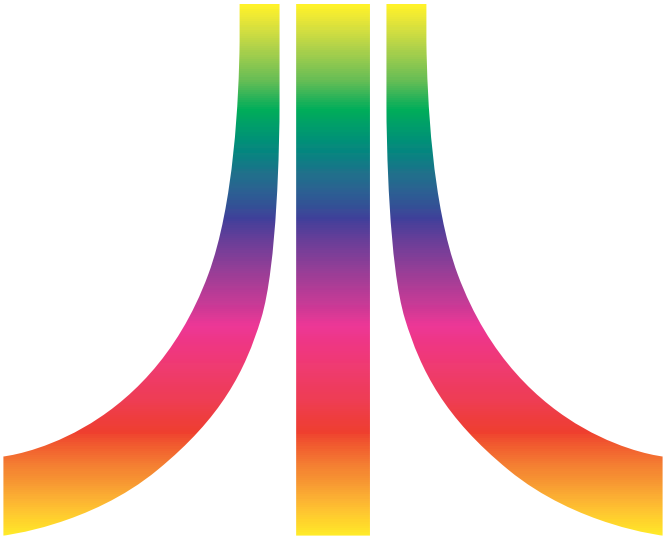


INTRODUCTION

THE400 Mini is a modern recreation of the Atari 8-bit home computer series first released in 1979. **THE400 Mini** is instantly reminiscent of the original Atari 400 (although the keyboard is purely aesthetic and non-functional). However, looks can be deceiving as **THE400 Mini** is packed with features that were only to be found on later Atari models, including additional additional memory, and its HDMI and USB ports make it plug-and-play with today's technology.

THE400 Mini is supplied with **THECXSTICK**, a replica of the original CX40 joystick for absolute authenticity. This features a number of intelligently concealed buttons, making it as functional as a modern gamepad without spoiling its look, and can be switched between a left or right hand mode. The console itself comes preloaded with 25 fully licensed classic games from the heyday of the Atari 8-bit range, plus you can easily play any Atari 8-bit games you own from a USB stick.

So whether you are new to Atari 8-bit gaming or a seasoned pro, with **THE400 Mini** it has never been so much fun!



SETTING UP THE400 MINI

UNPACKING THE BOX

Before connecting any cables, check the contents of the packaging:

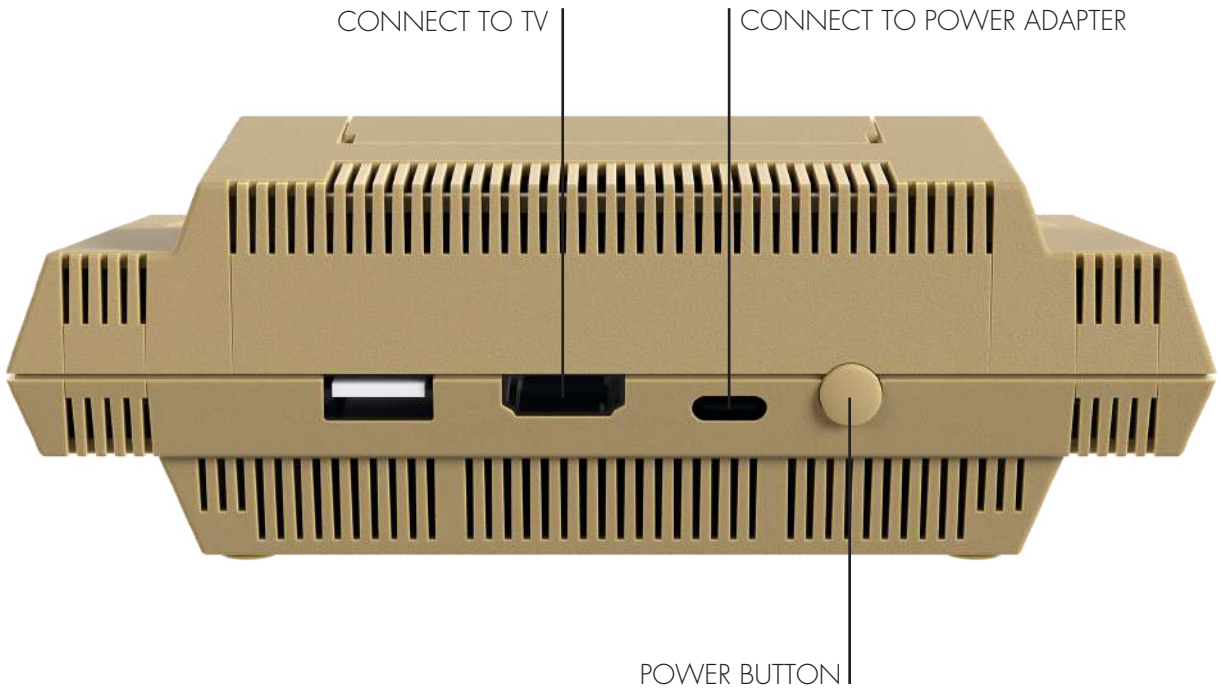
- **THE400 Mini**
- **THECXSTICK** USB joystick
- HDMI cable
- USB power cable
- **THE400 Mini** Quick Guide QRCode

You will also need to have the following items available (not included):

- A monitor or TV with an HDMI port, capable of displaying a 720p resolution
- A USB compatible 5V/1A (5W) output power adapter

CONNECTING THE400 MINI

Make sure your monitor or TV is switched off before you connect **THE400 Mini**.



TURNING THE400 MINI ON AND OFF

Switch the TV source to the appropriate HDMI input and press the power button at the rear of **THE400 Mini**. The power indicator will illuminate red, and the TV will show the welcome logo.

To turn off **THE400 Mini**, press and hold the power button for two seconds.

FIRST-TIME SETUP

The first time you turn on **THE400 Mini** you will be asked a few questions about some essential settings needed to get you going with your new **THE400 Mini**.

To navigate these menus, use **THECXSTICK** and follow the on-screen prompts and button hints displayed at the bottom of the screen.

LANGUAGE

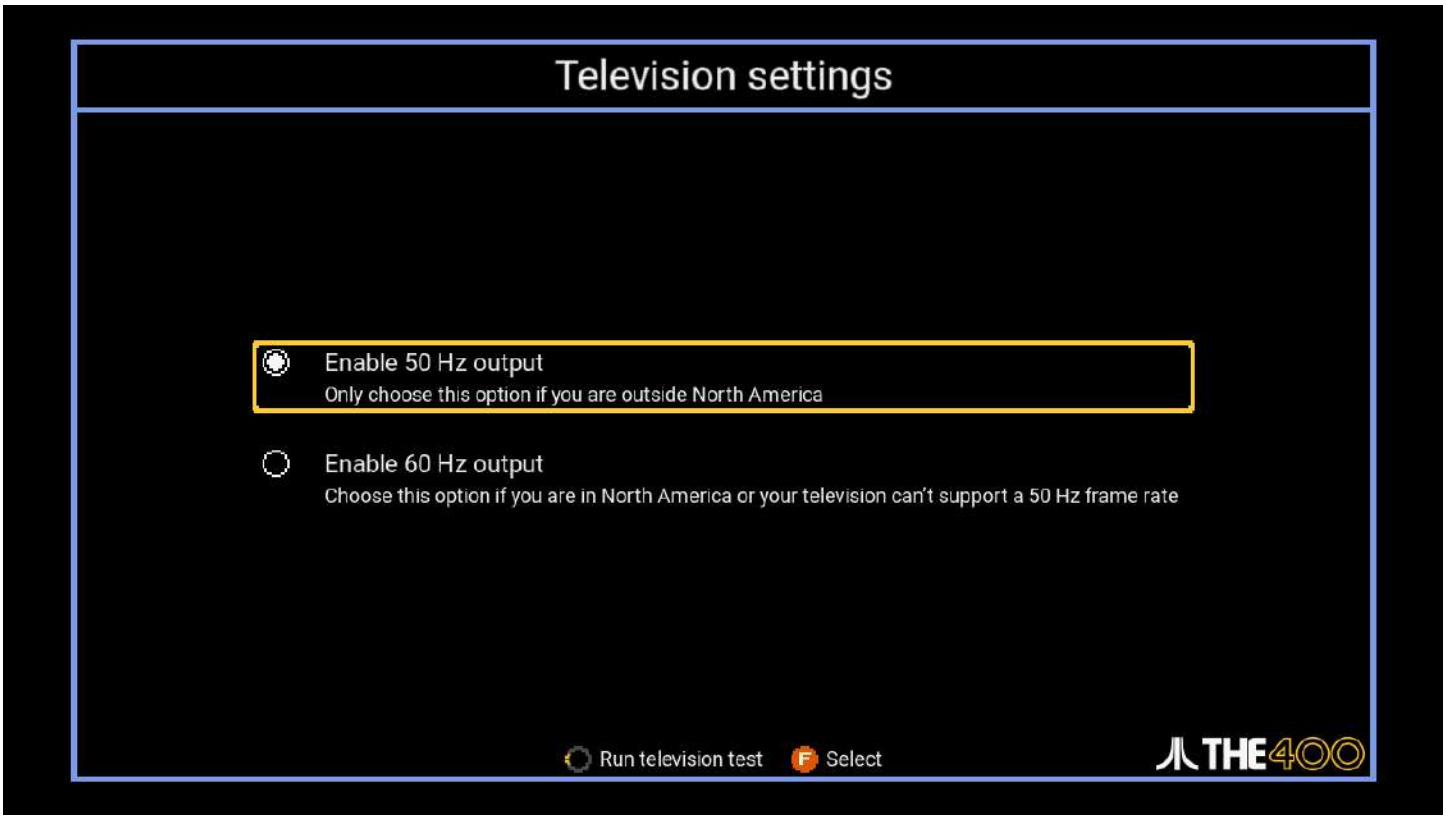
THE400 Mini first asks you to select your preferred language. Move the selector to the language you want and press F.

When you have made your selection, press TOP to move on to *Television settings*.

Note: This will only set the language of the user interface. The built-in games are all in English.

TELEVISION SETTINGS

To complete the set up, **THE400 Mini** will ask you to choose the video output requirement of your television, either 50 or 60 Hz.

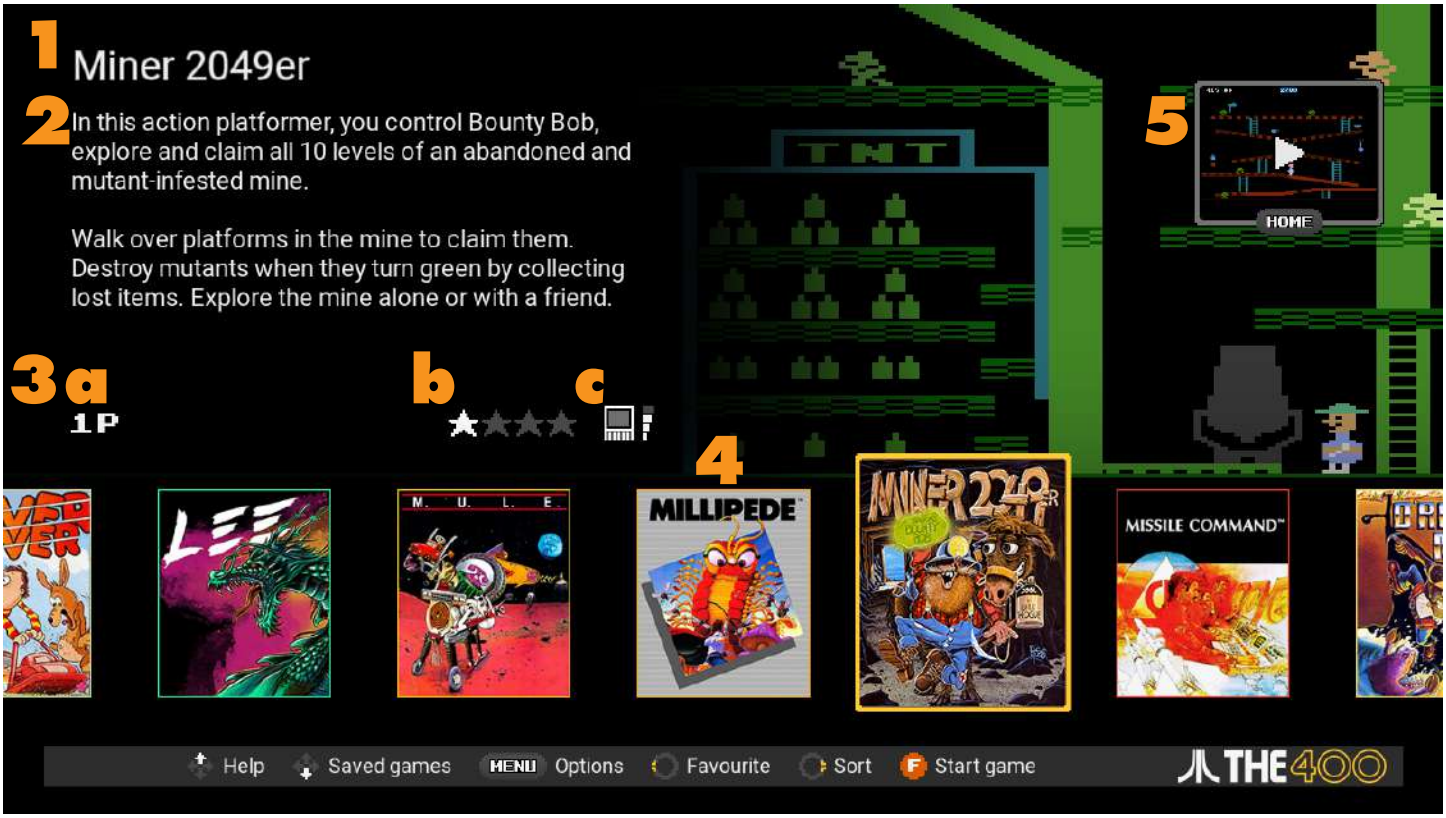

Television settings
Enable 50 Hz output
Only choose this option if you are outside North America
Enable 60 Hz output
Choose this option if you are in North America or your television can't support a 50 Hz frame rate
Run television test
F Select
THE400

Move the selector to the required video output mode and select it by pressing F.

Before you can proceed, you must test and confirm that your TV will work with the chosen video output mode by pressing ○. **THE400 Mini** will perform the test by switching to the chosen video output mode for 20 seconds. When the test starts you may see your TV screen go blank for a few seconds.

If your TV successfully resumes displaying the *Television settings* menu with the new mode selected, press ○ to accept the mode. If the video test is not successful, identified by whether or not you can clearly see the *Television settings* menu during the test, wait until the test completes and **THE400 Mini** reverts to the previous output mode.

THE GAME CAROUSEL



1 Current game title

2 Current game description

3 Current game information icons

- **a** Number of players icon
  This shows **1P** for single player games, **2P** for two player games, and **2P+** for games that can have more than two players.

- **b** Favourite stars
  This shows the number of favourite stars you have given this game.

- **c** Saved games indicator
  This shows whether any saved games have been stored for this game. The number of filled rectangles on the right hand side shows how many of the four saved game slots are occupied.

4 Carousel of games
This carousel shows the box covers of the games included in **THE400 Mini**, with the current game highlighted.

5 Suspended game
While a game is suspended, a miniaturised view of the suspended game is shown floating at the top-right of the screen. This suspended game may be resumed or saved into one of four slots per game.

SELECTING A GAME

Use ✥ to scroll through the carousel and select the game you want. As each game is selected, the game title, description and information icons displayed at the top-left of the screen will update accordingly.

GIVE A GAME A FAVOURITE RATING

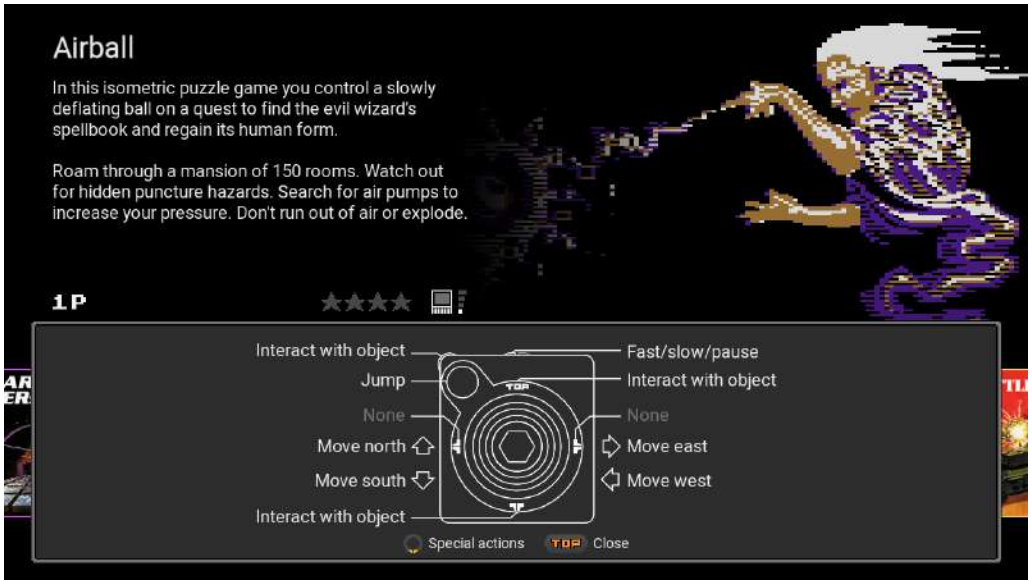
Press ○ to add a favourite star to the current game. If the game already has four stars, this will reset the number of stars to zero.

SORTING THE CAROUSEL

Press ○ to sort the carousel of games by different criteria. These are *Title* (the default), *Author*, *Genre*, *Year* of release, *Publisher*, and number of *Favourite* stars.

GETTING HELP FOR A GAME

Press ✥ to view the control help for the current game. This will show a diagram of **THECXSTICK** with each button labelled with its function within the game.


Airball
In this isometric puzzle game you control a slowly deflating ball on a quest to find the evil wizard's spellbook and regain its human form.
Roam through a mansion of 150 rooms. Watch out for hidden puncture hazards. Search for air pumps to increase your pressure. Don't run out of air or explode.
1P
Interact with object
Jump
None
Move north
Move south
Interact with object
Fast/slow/pause
Interact with object
None
Move east
Move west
Special actions
Close

Special actions are available across all games, such as showing the virtual keyboard or rewinding gameplay. To see which buttons of **THECXSTICK** activate these actions, which are common to all games, press and hold S.

For full instructions on how to play each of the 25 included games, visit retrogames.biz/games/the400-mini

PLAYING A GAME

Select the game you wish to play from the carousel using the ✥ and press F to start it from the beginning.

If a game is started before a suspended game is saved, the suspended game will be discarded.

EXITING AND SUSPENDING A GAME

To suspend a game and return to the Game carousel, press HOME or the power button once. A miniaturised view of the suspended game will appear floating in the top-right corner of the screen.

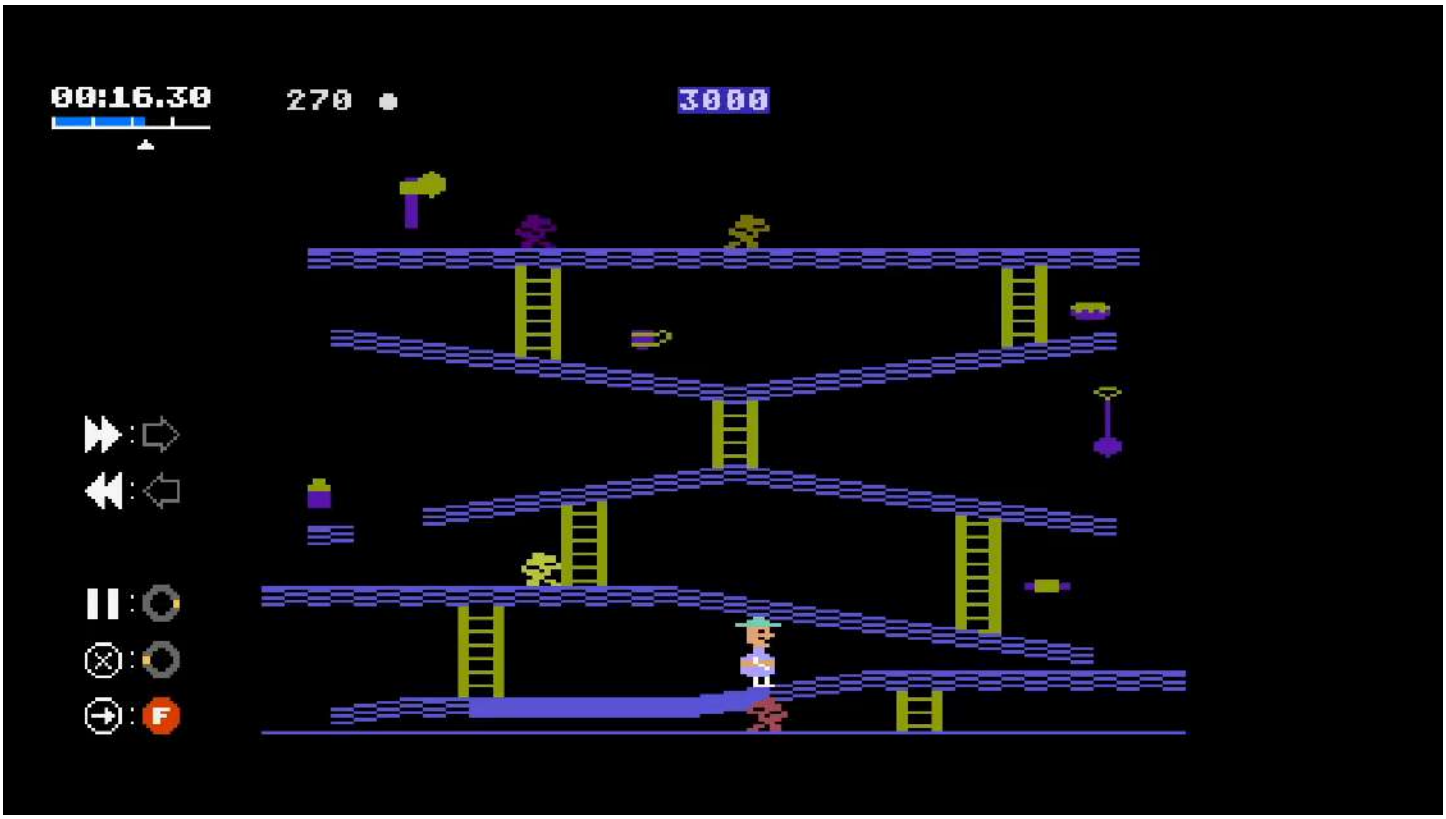
> **Tip:** Try not to suspend a game while in the middle of an intense action phase, as this can result in a game that is difficult to play when resumed.

RESUMING A SUSPENDED GAME

Press HOME on **THECXSTICK** to resume the currently suspended game.

REWINDING GAMEPLAY

While playing a game, pressing HOME + ✥ will interrupt the gameplay and bring up the rewind controls on the left hand side of the screen. This allows you to rewind your gameplay by up to 40 seconds. You can rewind gameplay at any time, even after resuming a suspended or saved game.



Joystick button	Rewind function
✥	Step gameplay back by 10 seconds.
✥	Advance gameplay by 10 seconds.
F	Continue the game from the current point in the rewind display.
○	Cancel rewind and continue the game from where gameplay was interrupted.
○	Toggle pause of the replay on and off.

When you step back through the gameplay, **THE400 Mini** will replay from that point. The current position in the rewind history is shown in the top left corner of the screen, and reflects the duration by which the gameplay has been rewound.

When you reach the point from which you wish to continue playing, press F. **THE400 Mini** will display a 3-2-1 countdown, preparing you to take over the gameplay.

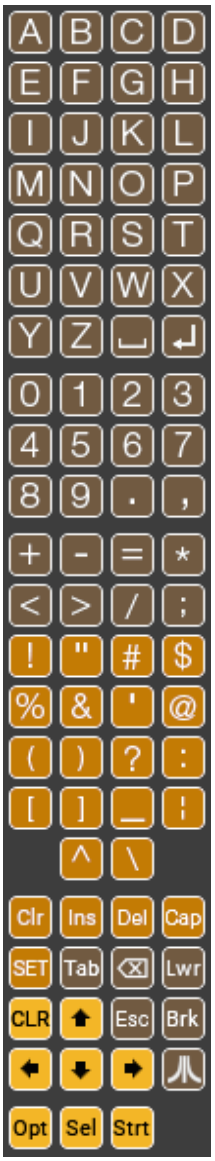
USING THE VIRTUAL KEYBOARD

While playing a game, pressing HOME + MENU will bring up a virtual keyboard on the right hand side of the screen. This allows you to virtually press any of the standard Atari 8-bit keyboard keys. While the virtual keyboard is in operation the game will not respond to **THECXSTICK**. This is most useful for typing, for example entering your name for a high score table. For more complex keyboard functions (for example, pressing more than one key at once) see ***"Using a USB keyboard" [page 31]***.

Move the selector over a key you wish to virtually press and press F. There are also some special shortcut functions you can quickly access through **THECXSTICK**:

Joystick button	Virtual keyboard key
TOP	Return
○	Backspace
○	Space

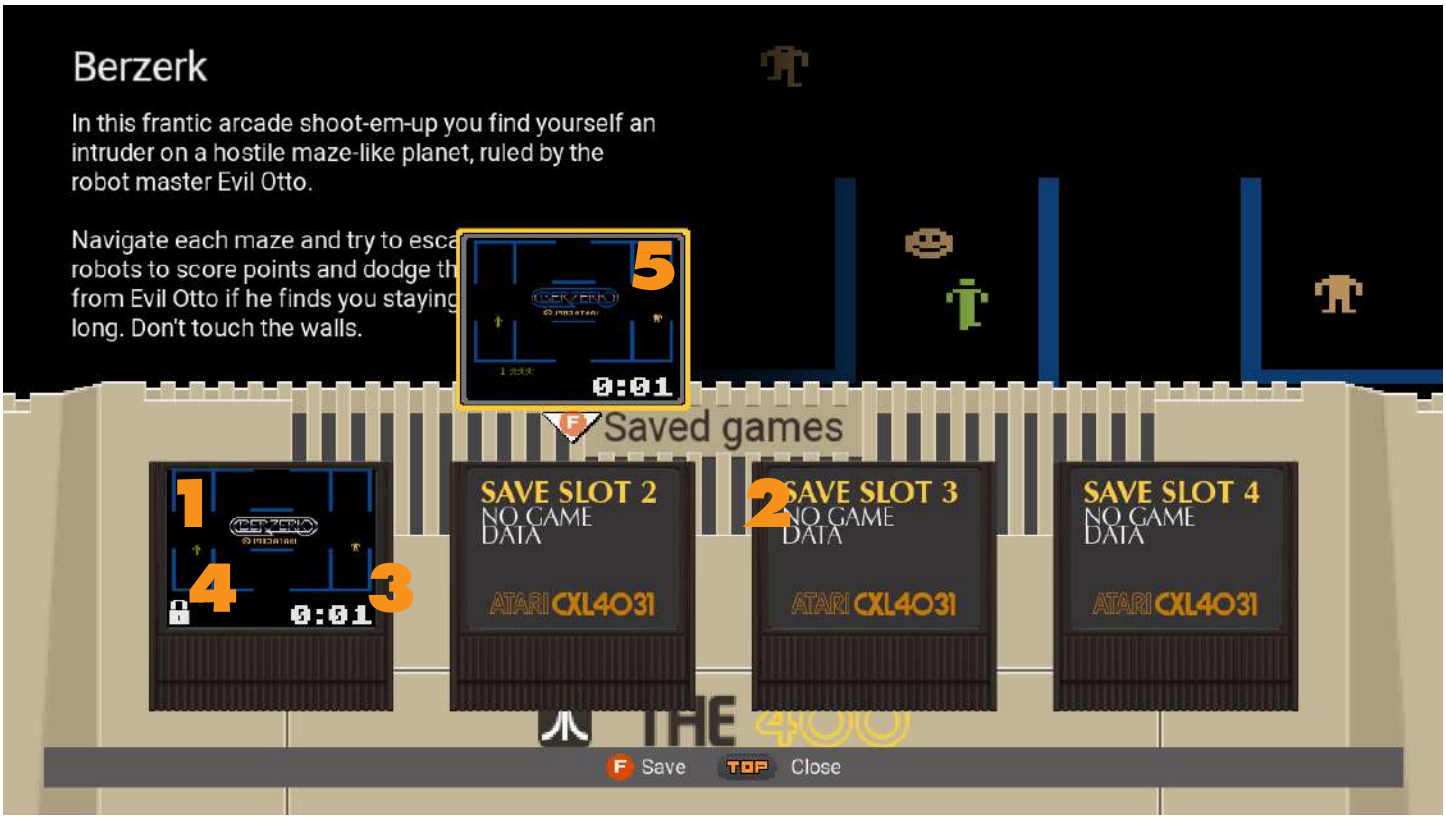
To close the virtual keyboard and resume gameplay with **THECXSTICK**, press HOME + MENU again.



SAVING AND LOADING SUSPENDED GAMES

Pressing ✥ will show the *Saved game* slots for the current game, where you can save a suspended game or resume a previously saved game.

Each game has four slots for saved games, represented by four cartridges.



1 Filled saved game slot

2 Empty saved game slot

3 Elapsed game time

4 Locked game slot indicator

5 Suspended game

SAVING A GAME

If there is a currently suspended game, the miniaturised suspended game will move down and hover above the first available *Saved game* slot (either the first blank slot or otherwise the first unlocked slot). Pressing ✥ will move the hovering suspended game to another slot.

Press Ⓕ to save the game in the chosen slot. This will overwrite any game already in that slot. If a slot has been locked you will not be able to save a game into that slot until you unlock it (see ***"Locking/unlocking a saved game slot" [page 12]***).

LOADING A GAME

If there is a currently suspended game, the miniaturised suspended game will move down and hover above the first available *Saved game* slot. If this is the case and you want to discard it and load a previously saved game, press ✥ to move the selector down to one of the occupied game slots.

If the current game is not suspended, the selector will automatically move down to one of the occupied game slots.

Berzerk
In this frantic arcade shoot-em-up you find yourself an intruder on a hostile maze-like planet, ruled by the robot master Evil Otto.
Navigate each maze and try to escape. Blast the robots to score points and dodge their laser fire. Flee from Evil Otto if he finds you staying in a maze too long. Don't touch the walls.
Saved games
0:01
SAVE SLOT 2
NO GAME DATA
ATARI CXL4031
SAVE SLOT 3
NO GAME DATA
ATARI CXL4031
SAVE SLOT 4
NO GAME DATA
ATARI CXL4031
Lock / Unlock
F Load
TOP Close

Press ✥ to select the saved game you wish to resume, and press Ⓕ to load it.

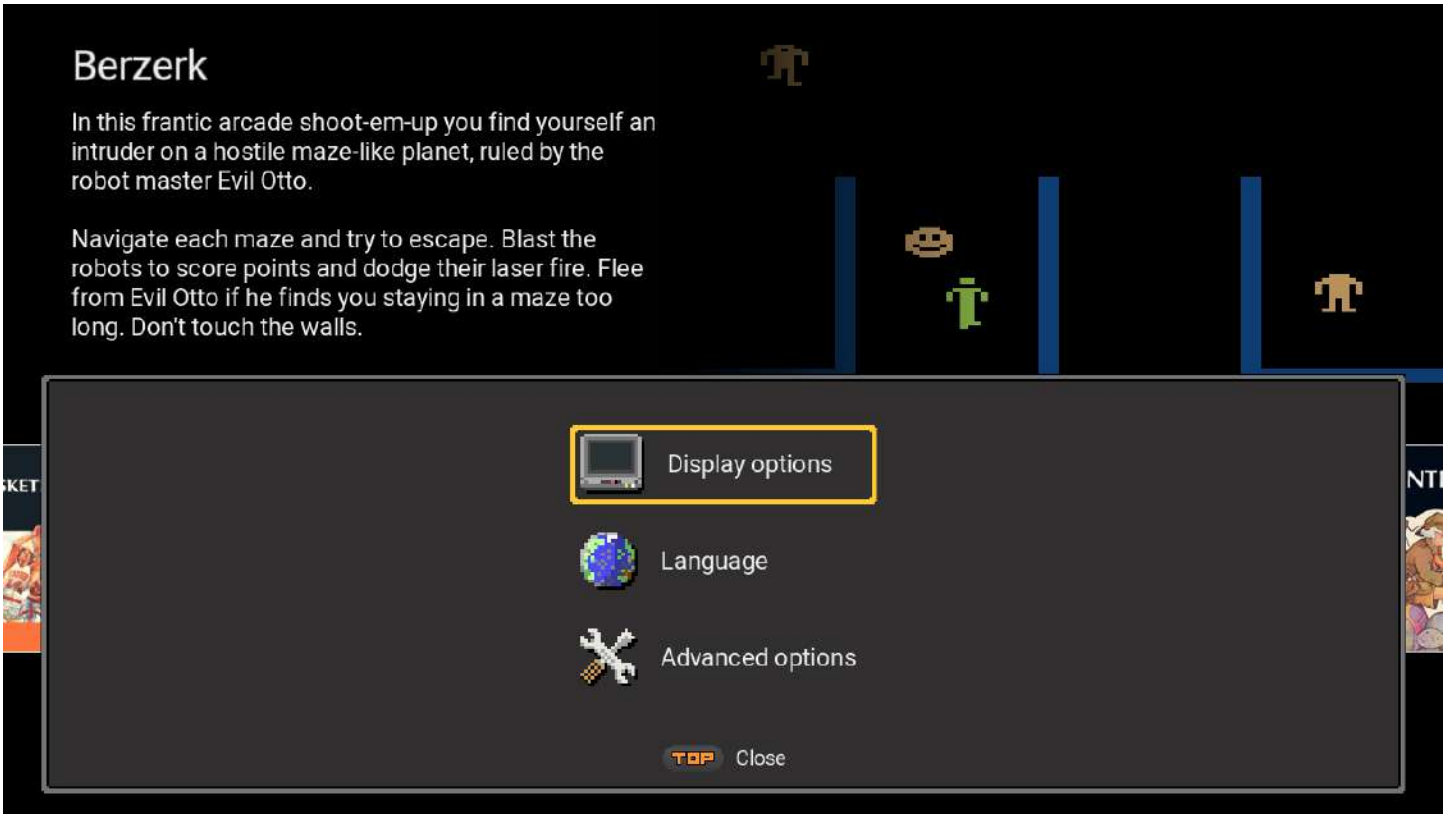
> **Note:** Loading a previously saved game will discard a suspended game that is unsaved.

LOCKING/UNLOCKING A SAVED GAME SLOT

Move the selector to one of the occupied saved game slots and press ○ to lock that slot. This will prevent any game from being saved into that slot. Press ○ on an already locked slot to unlock it.

OPTIONS

Press MENU on the game carousel to show the *Options* menu. These options control the operation of the entire console.

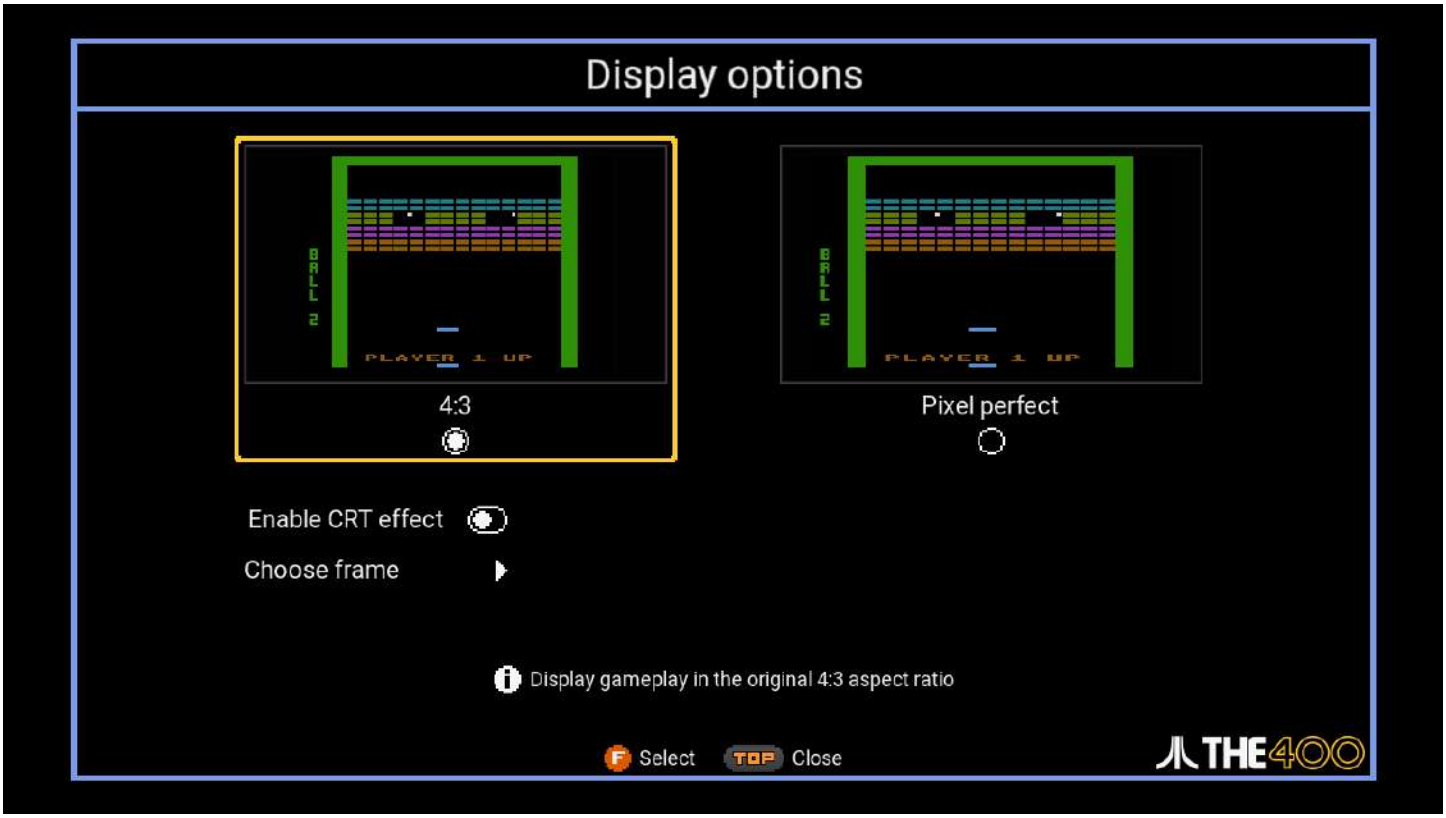

Berzerk
In this frantic arcade shoot-em-up you find yourself an intruder on a hostile maze-like planet, ruled by the robot master Evil Otto.
Navigate each maze and try to escape. Blast the robots to score points and dodge their laser fire. Flee from Evil Otto if he finds you staying in a maze too long. Don't touch the walls.
Display options
Language
Advanced options
TOP Close

Move the selector with ✥ and press F to select a menu option.

Press TOP to back out of any menu.

DISPLAY OPTIONS

This menu contains options to control how a game's image is displayed on the TV.



4:3 / Pixel perfect — Choose one of these two display modes to change how **THE400 Mini** displays the game image.

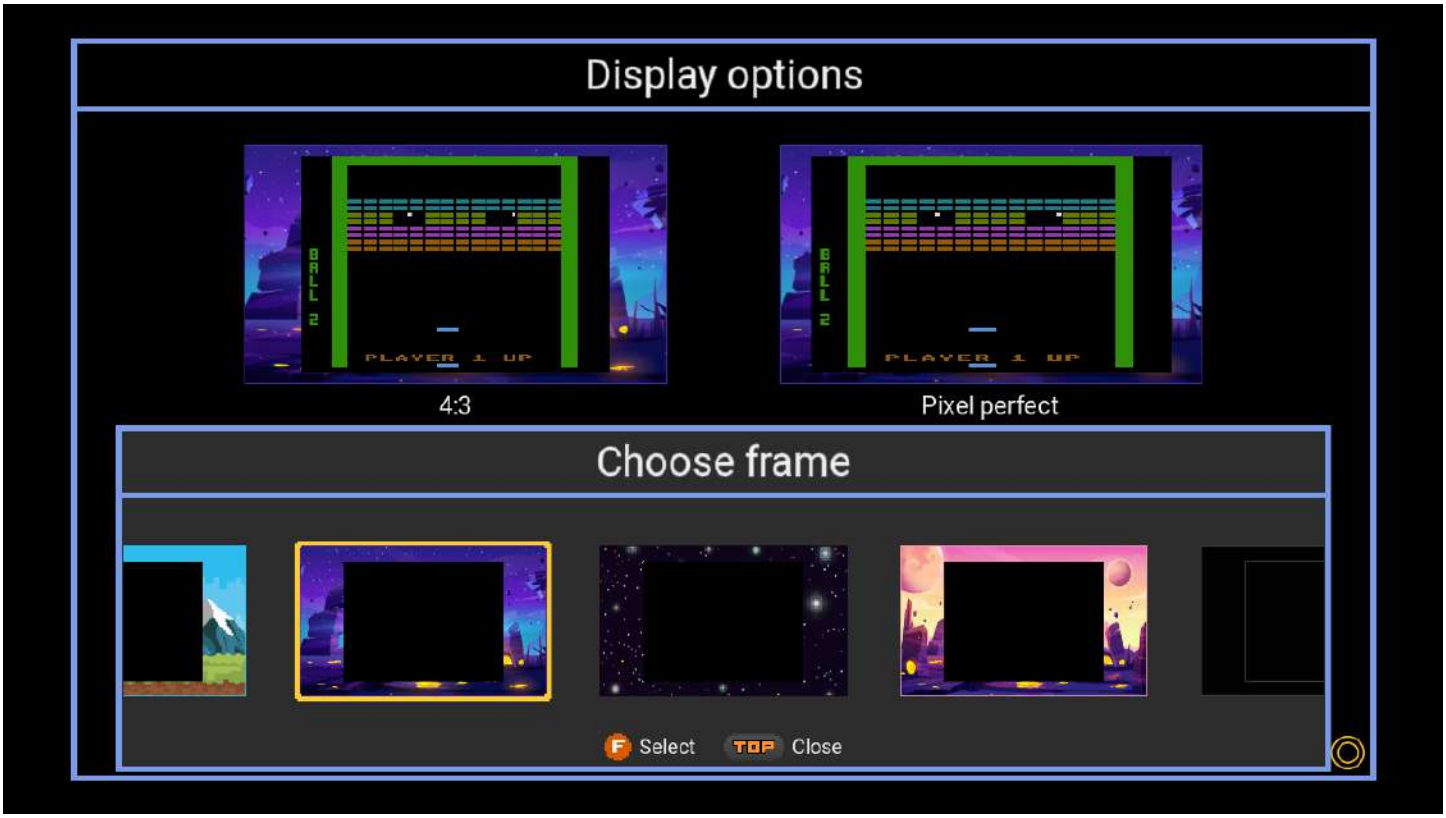
- *4:3* — This presents the gameplay with the same aspect ratio seen on an original television display, where pixels are slightly taller than they are wide.

  This can occasionally lead to scaling artefacts on a modern HD TV when gameplay scrolls left and right.
- *Pixel perfect* — This will display the gameplay using square pixels, removing any scaling artefacts and using slightly more of the width of the display television.

Enable CRT effect — Enables an effect that simulates the scan lines of a classic CRT screen

Note: These options only affect the appearance of the game image when being played, not the game carousel, menus or virtual keyboard.

CHOOSE FRAME



To remove the black border surrounding the gameplay area, you can choose to have the gameplay displayed within an attractive background.

Select *Choose frame* to reveal a carousel of frame images that you can browse using ✥.

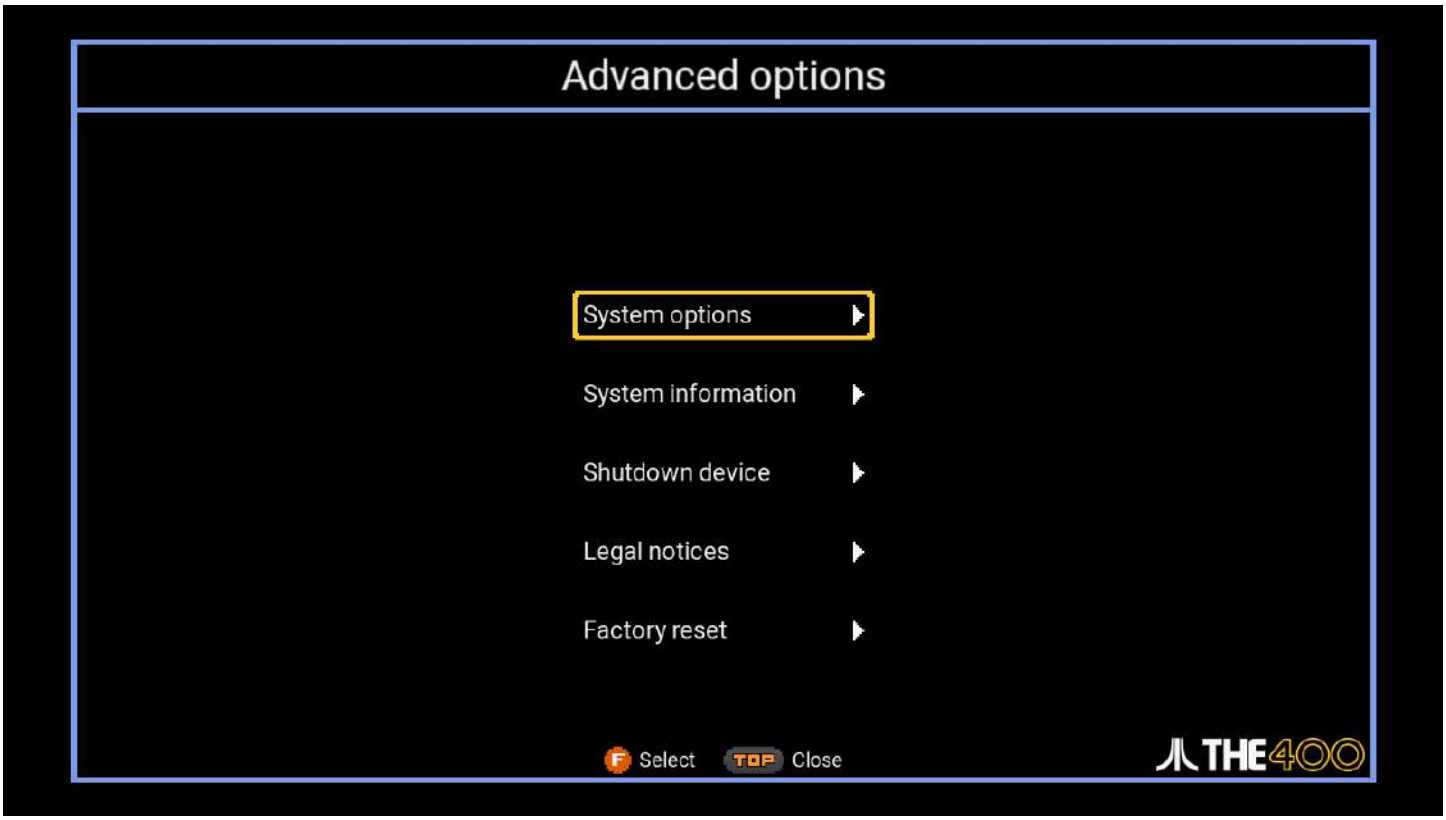
Press Ⓕ to select an image, which will change the frame around the example screenshots shown above. When you are happy with your chosen frame, press TOP to return to the *Display options* menu.

LANGUAGE

This menu allows you to change the language **THE400 Mini** uses to display the game descriptions and menus. The choices are *English*, *Deutsch*, *Français*, *Italiano*, *Español* and *Polski*. It does not affect the 25 included games, which are in English.

ADVANCED OPTIONS

This menu contains options for more advanced users and rarely used functions.



SYSTEM OPTIONS

This menu controls system settings, and allows you to adjust the volume level of the menu music. This does not affect the volume of a game's audio.

To increase the level of the volume slider press F, and to decrease the volume slider press .

SYSTEM INFORMATION

This shows **THE400 Mini**'s current firmware build, and will also allow you to upgrade to a newer firmware build if one is present on an inserted USB stick (see ***"Updating the firmware" [page 29]***).

SHUTDOWN DEVICE

This option safely shuts down **THE400 Mini**. This will discard a suspended game that is unsaved and power off the device. Alternatively, you can shutdown the device by pressing and holding the power button for two seconds.

LEGAL NOTICES

This option displays the legal notices relevant to THE400 Mini. The text may be scrolled up and down using .

FACTORY RESET

This will reset all settings to their default values and erase all saved games for the 25 installed games. This function can also be initiated by holding the power button down while **THE400 Mini** powers on.

A factory reset will not revert any firmware upgrades, nor will this erase the *Saved game* slots and settings for user supplied programs held on USB stick.

LOADING YOUR OWN PROGRAMS

THE400 Mini allows you to load your own programs from a USB stick.

When you insert a correctly formatted USB stick into **THE400 Mini**, an additional carousel item will appear titled *USB Media Access*. Selecting this item and press F to browse and run programs from the USB stick.

BROWSING PROGRAMS ON THE USB STICK

Selecting the *USB Media Access* carousel item will launch a file browser that you can use to navigate to and load your own program files.

Folders and files with the following Atari media file extensions will be shown:

Type	File extension
Cassette Tape	`.cas`
Disk	`.atr .atx .xfd .dcm`
Program	`.com .xex`
Cartridge	`.crt .rom .bin .c##`
Playlist	`.m3u`

Use ✥ to navigate through the contents of the USB stick. To select a program or descend into a folder, press F. To step back out of a folder, press ○.

Once you have selected the program, its filename will be displayed in the *Current media* section at the bottom of the screen. To start the selected program press HOME, and to adjust its settings press MENU.

To return to the *Game carousel* press TOP. The description shown for the *USB Media Access* carousel title will reflect the *Current media* filename.

CARTRIDGE FILE SUPPORT

Software cartridges produced for the Atari 8-bit computer range often had different extended capabilities, such as more memory or other features. When loading a cartridge file, **THE400 Mini** will automatically detect the type of cartridge to enable these capabilities.

> Note: In the unexpected case where a cartridge file (specifically **`.rom`** or **`.bin`** files) is not identified correctly, you can instruct THE400 Mini to use the correct type by giving the file an extension of **`.c##`**, where **`##`** gives the correct cartridge type number. For example **`.c02`**

MULTI-DISK GAME SUPPORT

THE400 Mini supports multi-disk games by allowing you to select multiple disk files at once, and flip between them while the game is running.

When you select a disk file from the USB stick contents list by pressing F, the behaviour is to replace the previously selected disk file. To select multiple disk files (for example *Disk 1 of 3*, *Disk 2 of 3* and *Disk 3 of 3*) you first select disk 1 by pressing F and then add the additional disks 2 and 3 by pressing S.

Launch the game in the usual way by pressing HOME. When prompted to change disks by the game, press and hold HOME and then press ○. This will advance the “inserted” disk to Disk 2, then to Disk 3, then back to Disk 1, and so on.

You can choose a maximum of three disk files at once through this method, so for games with four or more disks, a playlist file is required.

PLAYLISTS

A playlist makes choosing multi-disk games a quick single click and avoids issues with mis-selecting files. They are required for games having more than three disks, but can be used for games having fewer.

A playlist is a text file with an **`.m3u`** extension, and it merely lists all the **`.atr`** files for the game, such as

```
Game A Disk 1 of 2.atr
Game A Disk 2 of 2.atr
```

The filenames within the playlist can also contain file path relative to the playlist file location, which give the flexibility of placing the **`.atr`** files in a different folder to keep the playlist folder uncluttered.

For example, you could place your **`.atr`** files in an ATR Files sub-folder, with the playlists created at the parent level:

```
/USB stick/ATR Files/Game A Disk 1 of 2.atr
/USB stick/ATR Files/Game A Disk 2 of 2.atr
/USB stick/ATR Files/Game B Disk 1 of 2.atr
/USB stick/ATR Files/Game B Disk 2 of 2.atr
/USB stick/Game A.m3u
/USB stick/Game B.m3u
```

The playlist file **`Game A.m3u`** contains two lines as follows (note that the file paths are relative, so there is no leading path separator ‘**`/`**’), as follows:

```
ATR Files/Game A Disk 1 of 2.atr
ATR Files/Game A Disk 2 of 2.atr
```

Being relative paths, you can move this around easily so long as the example ATR Files folder stays at the same level as the playlist file.

> Note: The playlist file paths use forward-slash (‘/’) as the path separator, not the Windows backslash (‘\’).

To launch a game through its playlist, choose it in the usual way by navigating to it with ✥, select it with F and then launch the game with HOME.

SAVING OR LOADING A SUSPENDED USB STICK PROGRAM

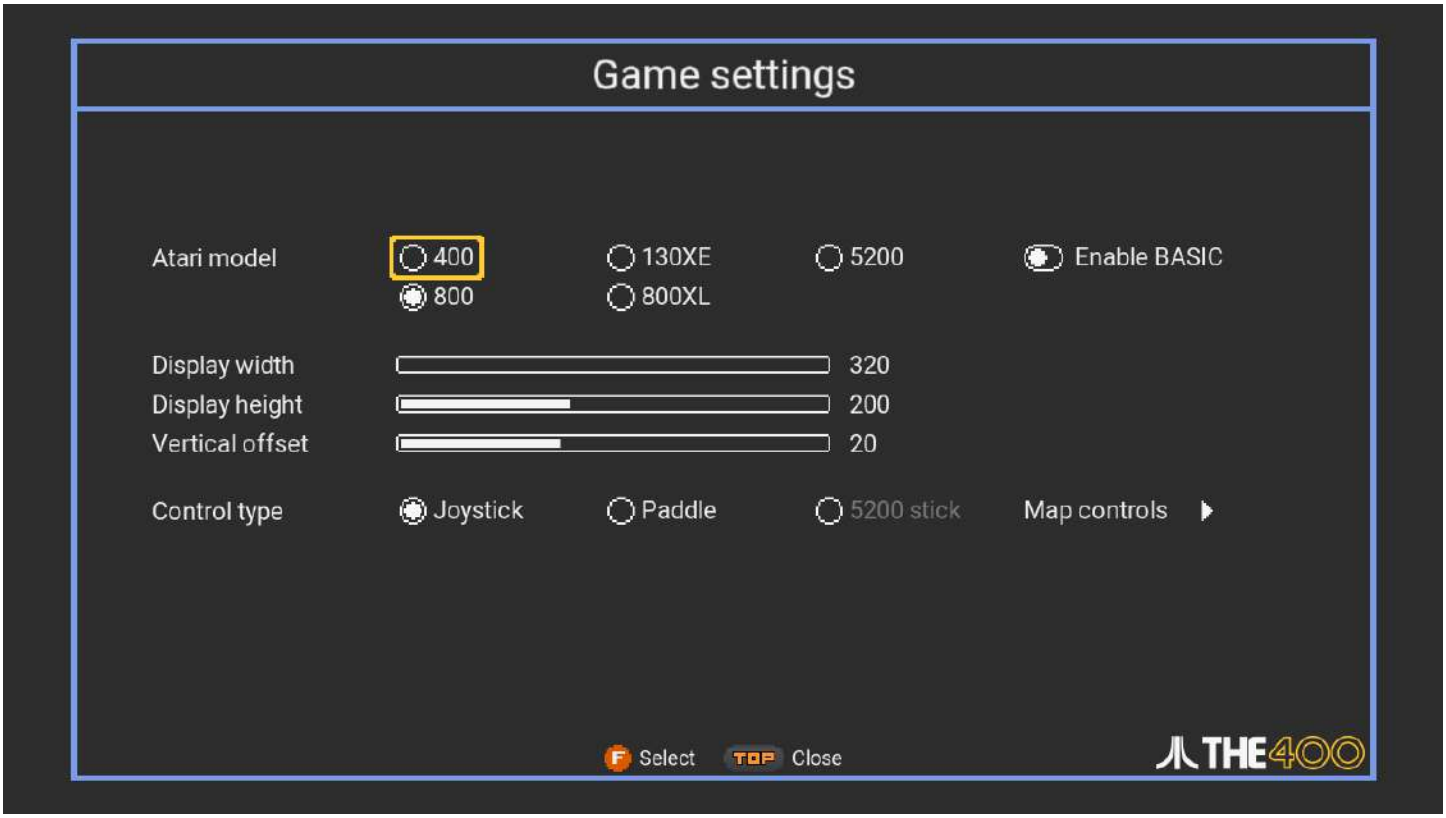
For USB stick programs, the procedure for loading a previously *Saved game* is slightly different to that for games on the carousel.

When the *USB Media Access* carousel item is selected, pressing ✥ from the *Game carousel* will show the Saved game slots for the program currently selected on the USB stick, as shown in the game description for the *USB Media Access* title.

Therefore, to load or save a suspended user program, you first need to make sure it is the one currently selected on the USB stick.

ADJUSTING THE SETTINGS OF A PROGRAM

Once you have selected a program to launch, you may modify settings such as joystick controls and image size before starting the program, by pressing MENU. These settings can also be changed for the currently suspended program.



For controls that have a numerical value, press F to increase the value and ○ to decrease the value.

ATARI MODEL

This option allows you to select the Atari home computer model on which you wish to run the selected program. The default is the Atari 800, as a great many programs will run on this model. Changing computer model will affect the *control type* options that are available.

ENABLE BASIC

This option selects whether a virtual BASIC cartridge is to be installed when running the selected game. It is only required for games which use BASIC, or you wish to use BASIC yourself. See ***"Accessing the BASIC programming language" [page 29]***.

ADJUST THE IMAGE POSITION AND SIZE

Many programs do not utilise the full horizontal or vertical resolution of the Atari display and therefore can have a black border around the gameplay or not centre it vertically. This will be most noticeable when displaying gameplay within a graphical border (See ***"Choose frame" [page 15]***). Also it is common for the game display size to change while the program is running, for example the game attract screen shown before you start a game can be a different size to the gameplay itself.

With the default display height of 200 and vertical offset of 20, Missile Command shows black borders at the top and bottom.

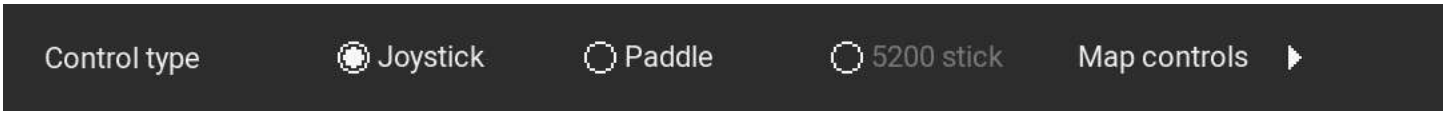
By altering the settings *Display width*, *Display height* and *Vertical offset* you can tell THE400 Mini the size of the gameplay image you want it to show for the game being configured, to remove any black area around the display image.

Setting the display height to 194 and adjusting the vertical offset to 24, Missile Command displays fully without any black borders.

CONFIGURE THE CONTROL PORTS

The original Atari 8-bit computers supported joysticks and paddles, with the last in the series, the 5200, using its own proprietary analog stick controller.

The *Game settings* menu allows you to specify the controller type expected by the program, and is applied to all four joystick ports. If you have selected the Atari 5200 model, then joystick and paddle options are not available.

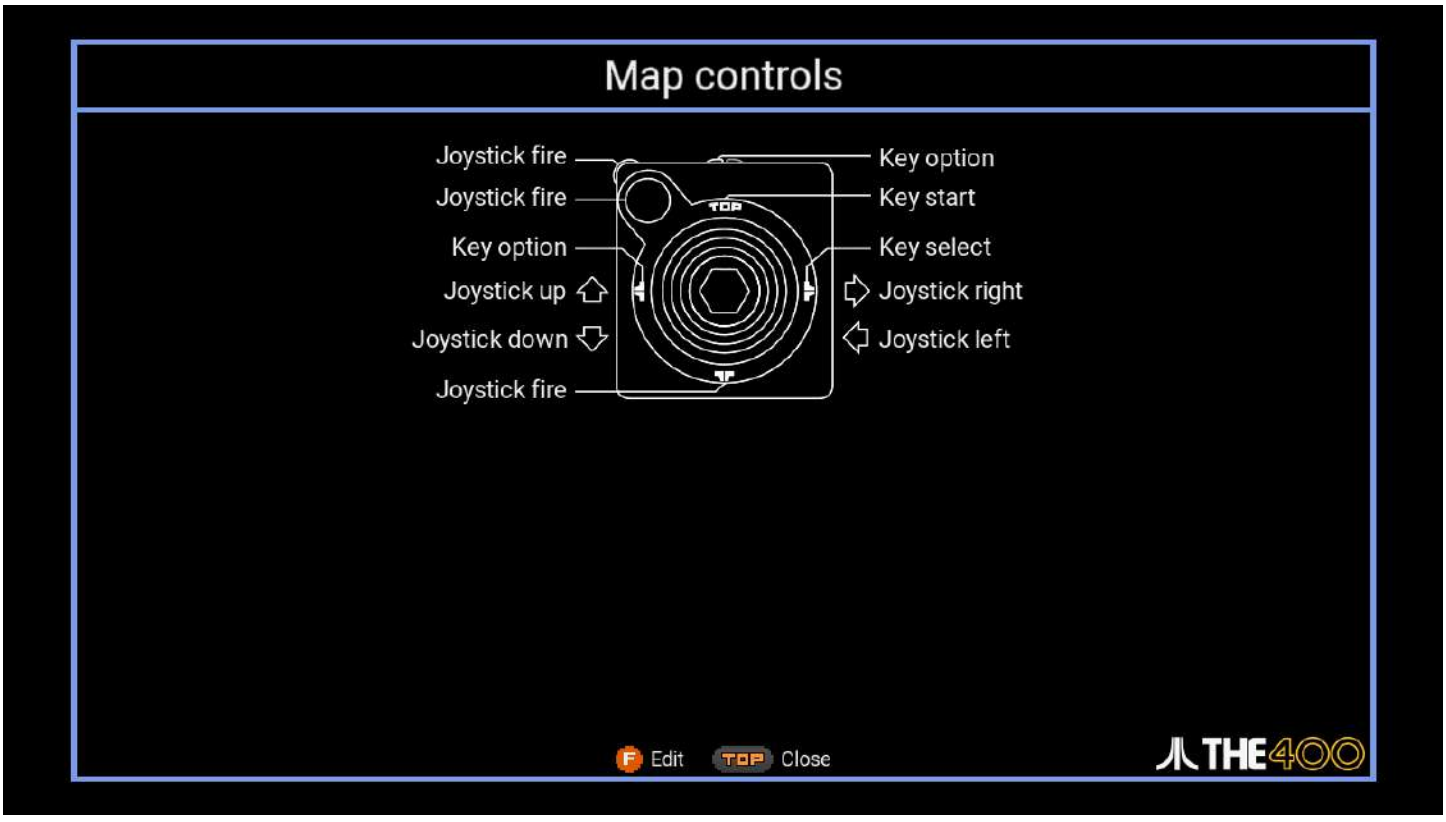


If a game requires a Paddle or 5200 analog stick, then further options will be available to configure how the analog paddle or 5200 stick is emulated when using a non-analog joystick or pad such as **THECXSTICK**. If you are using a third party controller that has an analog stick, this control can be used directly as a paddle or 5200 analog stick input.

MAPPING THE CONTROLS

Once the game is configured as using *joystick*, *paddle* or *5200 stick* controls, the connected **THECXSTICK** can be mapped to have any control or action assigned to its direction stick or buttons.

The controller mapping for the game can be viewed and edited by selecting the *Map controls* option. This will show a diagram of **THECXSTICK** and label each button with the current assigned action.



To edit the actions assigned to THECXSTICK directions and buttons, press F.

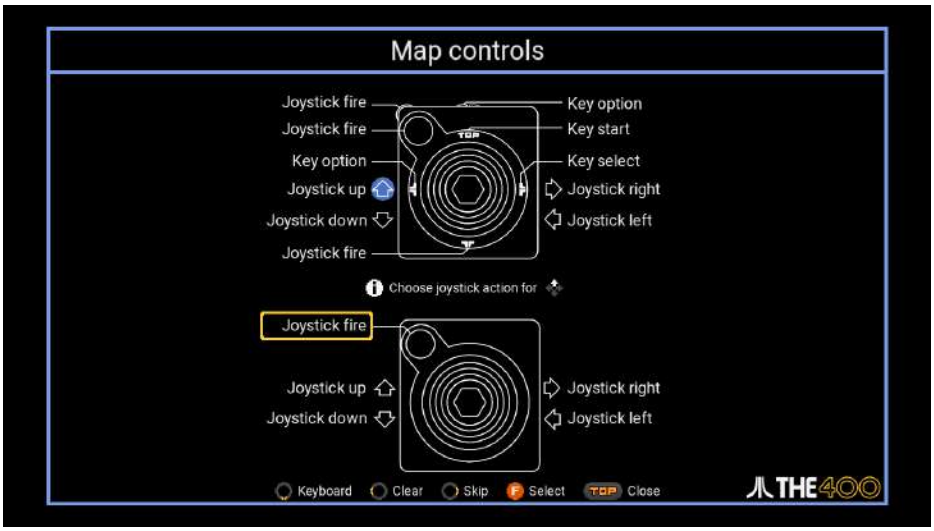
CONFIGURING GAMES THAT USE JOYSTICKS

ASSIGNING JOYSTICK ACTIONS

While editing, **THE400 Mini** positions a light blue indicator over **THECXSTICK** button currently being assigned. For this button:

- To change the assigned action, use ✥ to select the joystick action you want to assign and press F
- To keep the assigned action, press ○
- To clear the assigned action and leave it unassigned, press ○
- To make a selection from a different action group, press ○

Once an assignment is made, cleared or skipped, **THE400 Mini** will move the blue indicator to the next button, where you repeat the process until all buttons have been assigned, cleared, or skipped.

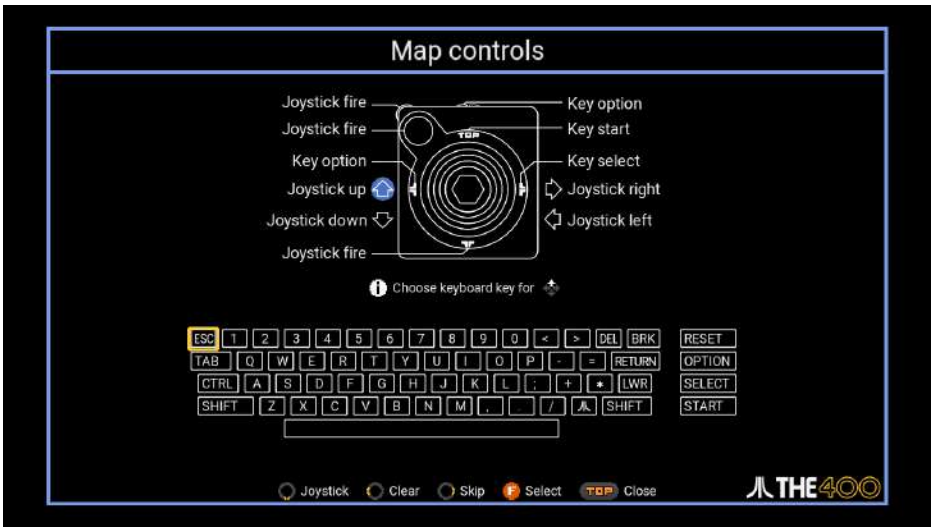


While assigning joystick actions, pressing ○ will switch to the group of *Keyboard* actions.

ASSIGNING KEYBOARD ACTIONS

Assigning *keyboard actions* to **THECXSTICK** follows the same process as assigning *joystick actions*. **THE400 Mini** will display a representation of an Atari keyboard and allow keys to be assigned to **THECXSTICK** buttons.

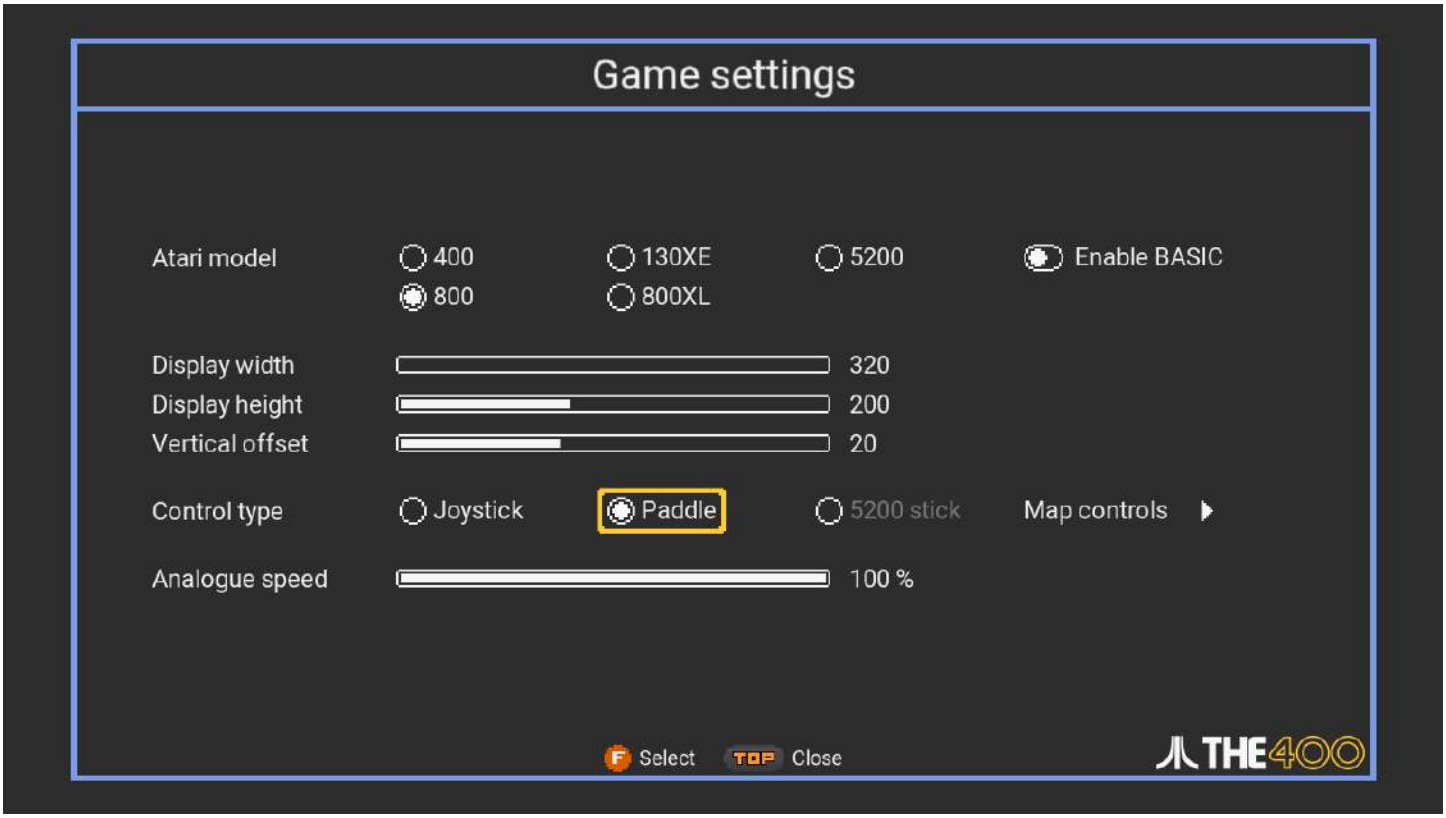
> **Note:** You can only assign a single key to a stick button.



Press ○ to switch back to the group of *Joystick* actions.

CONFIGURING GAMES THAT USE PADDLES

For games that are played with an Atari Paddle, select *Paddle* for the *Control type* option. **THE400 Mini** will automatically assign joysticks connected to player ports 1, 2, 3 and 4 to paddle inputs 1, 2, 3 and 4.



ANALOG SPEED

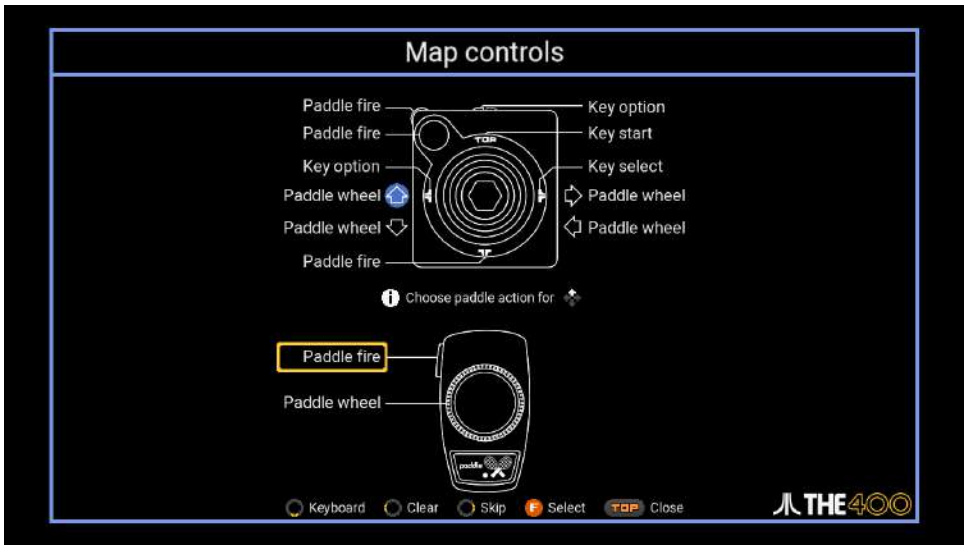
When the player is using a non-analog controller, this option sets how quickly the emulated paddle rotates when the controller is pushed left/right or up/down, depending on which axis is mapped to the paddle under *Map controls*.

ASSIGNING PADDLE ACTIONS

While editing, **THE400 Mini** positions a light blue indicator over the **THECXSTICK** button currently being assigned. For this button:

- To change the assigned action, use ✥ to select the paddle action you want to assign and press F
- To keep the assigned action, press ○
- To clear the assigned action and leave it unassigned, press ○
- To make a selection from a different action group, press ○

Once an assignment is made, cleared or skipped, **THE400 Mini** will move the blue indicator to the next button, where you repeat the process until all buttons have been assigned, cleared, or skipped.

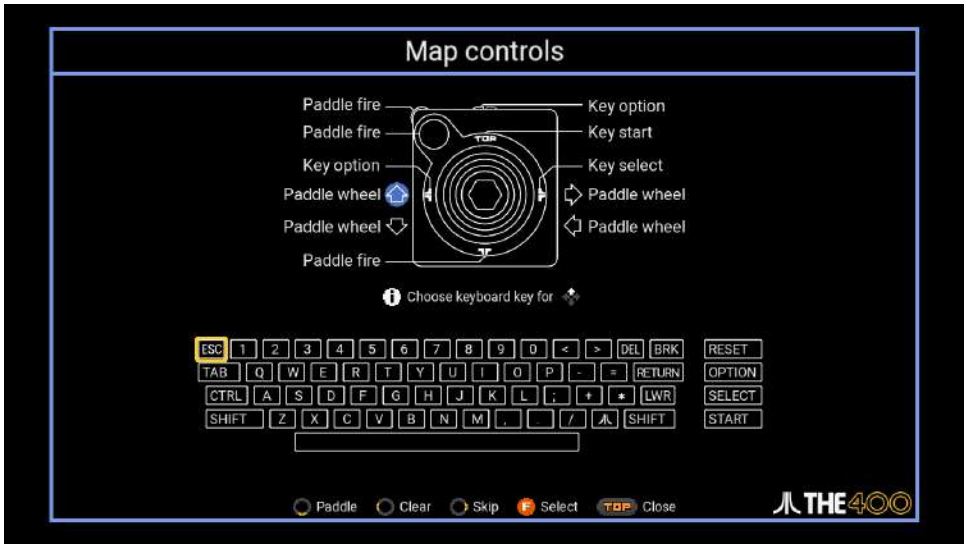


While assigning paddle actions, pressing ○ will switch to the group of *Keyboard* actions.

ASSIGNING KEYBOARD ACTIONS

Assigning *keyboard actions* to **THECXSTICK** follows the same process as assigning *joystick actions*. **THE400 Mini** will display a representation of an Atari keyboard and allow keys to be assigned to the **THECXSTICK** buttons.

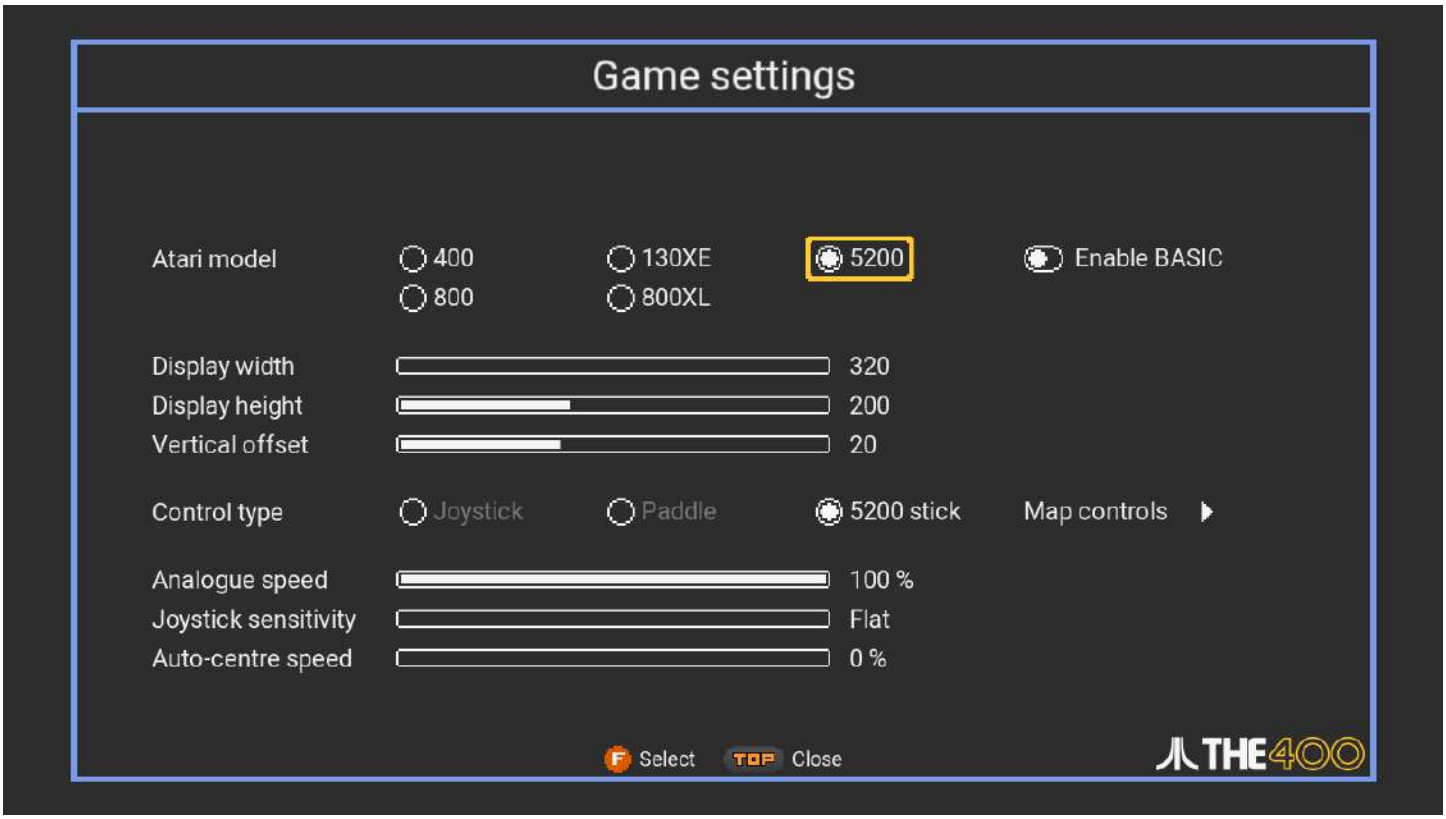
> **Note:** You can only assign a single key to a stick button.



Press ○ to switch back to the group of *Paddle* actions.

CONFIGURING 5200 GAMES

When running games for the Atari 5200 console, the *Control type* option will automatically be set to *5200 stick*. Since the 5200 only supported two controllers, only player ports 1 and 2 will be used.



ANALOG SPEED

When the player is using a non-analog controller, this option sets how quickly the emulated 5200 stick moves in any direction when the controller is pushed in a direction.

JOYSTICK SENSITIVITY

The original 5200 analog stick did not have a uniform response across its range of stick movement, making accurate gameplay difficult. Some 5200 games compensate for this and therefore expect the directional control to be nonlinear.

Using the *Joystick sensitivity* option you can select from four levels of sensitivity response curve. *Flat* maintains the same sensitivity across the full range of stick movement, whereas *Shallow*, *Medium* and *Steep* increase the sensitivity of the stick the further it moves, with *Shallow* being the softest and *Steep* the most aggressive.

AUTO-CENTRE SPEED

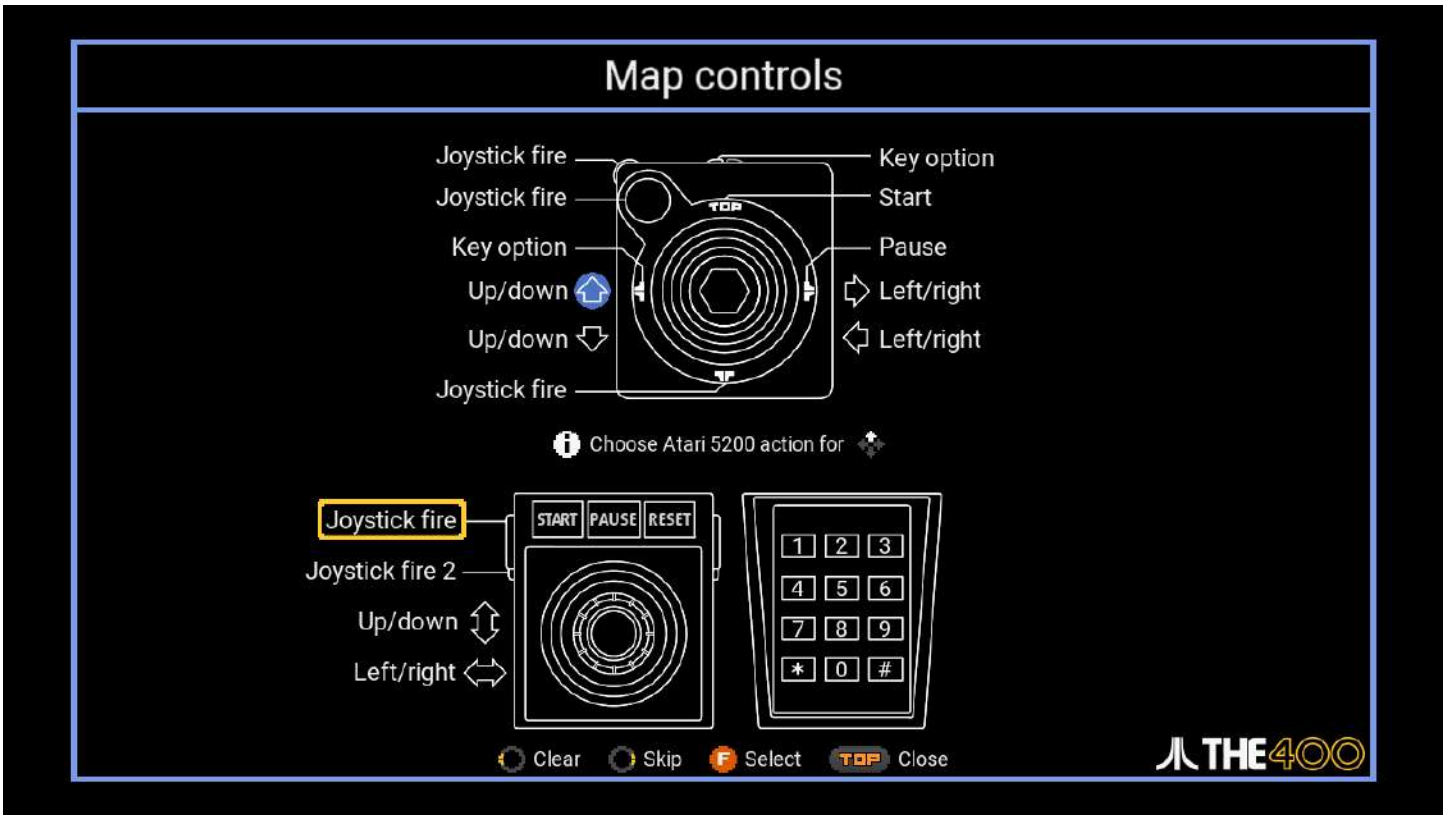
When the player is using a non-analog directional control, this option sets how quickly the emulated 5200 stick returns to centre when the directional control is released.

ASSIGNING 5200 CONTROLLER ACTIONS

While editing, **THE400 Mini** positions a light blue indicator over the **THECXSTICK** button currently being assigned. For this button:

- To change the assigned action, use ✥ to select the 5200 controller action or button you want to assign and press F
- To keep the assigned action, press ○
- To clear the assigned action and leave it unassigned, press ○
- To make a selection from a different action group, press ○

Once an assignment is made, cleared or skipped, **THE400 Mini** will move the blue indicator to the next button, where you repeat the process until all buttons have been assigned, cleared, or skipped.



THECXSTICK

SWITCHING TO LEFT HANDED MODE

To switch **THECXSTICK** into left handed mode, simultaneously press MENU + 5 + ◯. This will change the directions of the control stick so you can rotate the **THECXSTICK** 90 degrees clockwise and hold it with your right hand, with the red fire button with your right thumb.

> Note: The functions of the button ring do not rotate, so TOP should always be positioned at the top when considering the on-screen user interface button prompts.

To switch **THECXSTICK** back to right handed mode, simultaneously press MENU + 5 + ◯.

ADVANCED FEATURES

ACCESSING THE BASIC PROGRAMMING LANGUAGE

THE400 Mini gives you the freedom to write your own programs in BASIC and save them to disk, just like you could on the original machine with a BASIC cartridge plugged in and Atari DOS loaded from disk.

To access BASIC, first insert a correctly formatted USB stick into **THE400 Mini** and select *Media Access* from the carousel (See ***"Loading your own programs" [page 18]***). **THE400 Mini** will have written a special disk file named **`THE400_BASIC`** onto the USB stick, which when launched will give you a BASIC prompt, Atari DOS and a disk onto which you can save and load programs.

If you want to have multiple disks so you can keep your work separate or if you run out of space on the disk file provided, you can create multiple disks by renaming **`THE400_BASIC`** disk file with your PC to whatever name you want, or create multiple copies. **THE400 Mini** will always create a **`THE400_BASIC`** file on the USB stick if one is not present.

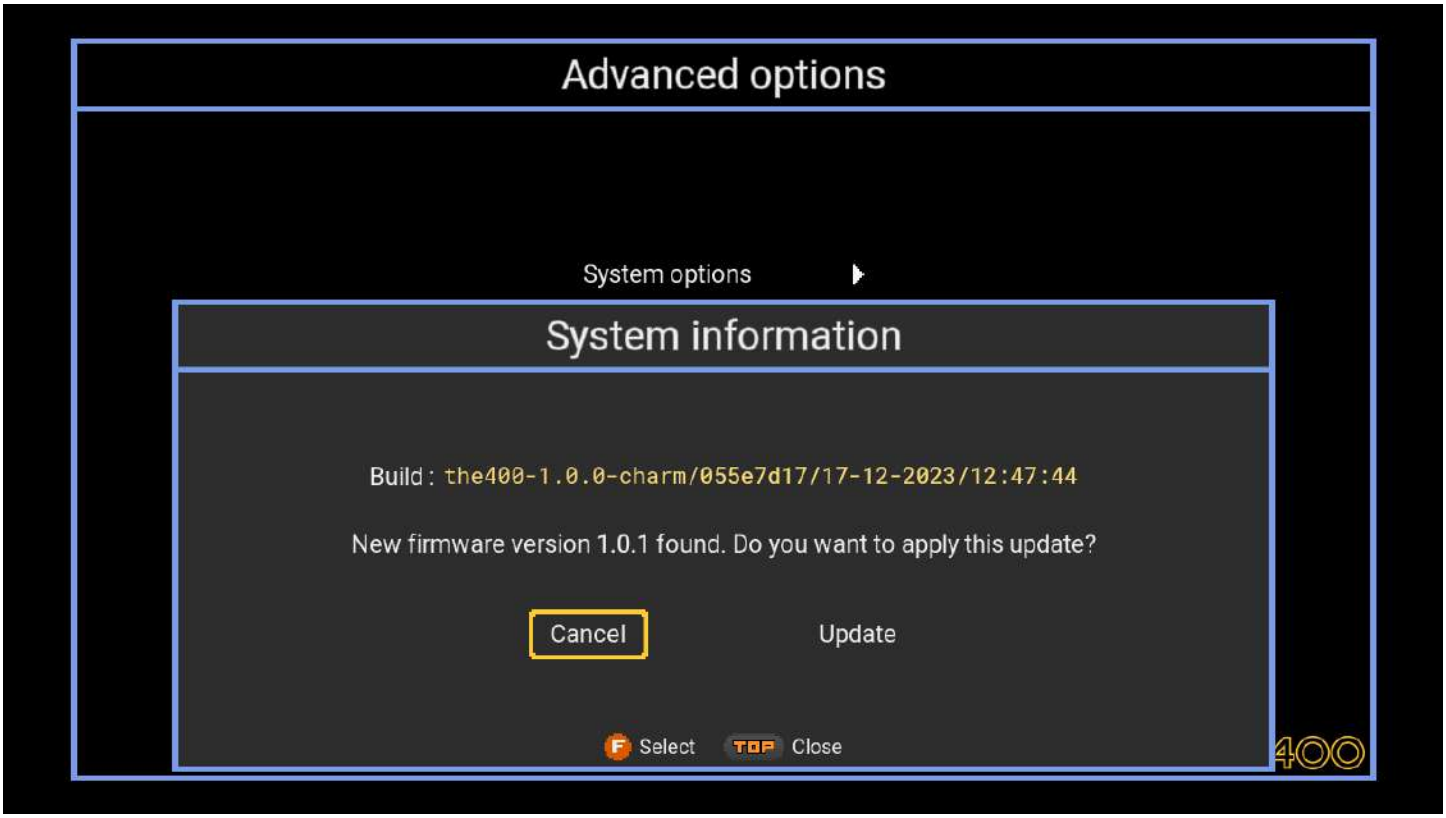
To launch a renamed BASIC disk image, make sure that *Enable BASIC* is selected in the *Game settings* menu (see ***"Adjusting the settings of a program" [page 20]***).

If you want to have simultaneous access to several disk images at the same time, swapping between them, you can select up to three disks in the *Media select* menu or set up a playlist. See ***"Multi-disk game support"*** and ***"Playlists" [page 19]***.

UPDATING THE FIRMWARE

Retro Games may occasionally release new firmware versions for **THE400 Mini** to correct issues, add new features or games.

Entering the menu *Options* → *Advanced options* → *System information* will show the current *Build* version of the firmware.



TO UPDATE THE FIRMWARE

1. Visit retrogames.biz/support/the400-mini/upgrade and check if the latest version on the website is greater than that reported by **THE400 Mini**.
2. If a later firmware is available, download it.
3. Copy the firmware onto the root folder of a FAT32 MBR formatted USB stick. Do not place it in a folder.
4. Insert the USB stick into your **THE400 Mini**.
5. Go to *Options* → *Advanced options* → *System information*.
6. **THE400 Mini** will check if there is a newer firmware on the USB stick and, if so, give you the options to *Update* or *Cancel*.
7. Selecting *Update* will begin the installation process.

While installing, **THE400 Mini** will display a progress bar which will fill up from left to right as the update proceeds.

> **Note:** It is important not to remove the USB stick or power from **THE400 Mini** while the update is in process.

When the update is complete, **THE400 Mini** will reboot and return you to the game carousel. If you wish to verify that the update has been applied, go to *Options* → *Advanced options* → *System information* and check the *Build* version that is displayed.

USING YOUR OWN PERIPHERALS

USING THIRD-PARTY CONTROLLERS

While **THE400 Mini** has been designed to work best with the included **THECXSTICK**, it is also compatible with Retro Games' **THEJOYSTICK** and **THEGAMEPAD** as well as some third-party controllers and joysticks.

The button designations of most USB controllers follow one of the three conventions established by Microsoft (Xbox), Sony (Playstation) and Nintendo. The following table shows how the buttons of these, **THEJOYSTICK** and **THEGAMEPAD** correspond to those of **THECXSTICK**.

Xbox	Playstation	Nintendo	THEJOYSTICK	THEGAMEPAD	THECXSTICK
A	×	B	Left fire	A	
B	○	A	Right fire	B	
X	□	Y	◤ ◹	X	
Y	△	X	◸ ◥	Y	
LB	L1	L	● ○ ○ ○	L	
RB	R1	R	○ ● ○ ○	R	
Back	Select	Select	○ ○ ● ○	Menu	
Start	Start	Start	○ ○ ○ ●	Home	

USING A USB KEYBOARD

If you plug any standard USB keyboard into one of THE400 Mini's USB ports, that keyboard will function much like an original Atari 8-bit keyboard.

Some Atari 8-bit keyboard keys do not exist on a modern USB keyboard, so are mapped to an alternative key as listed here:

Atari 8-bit key	USB keyboard key
OPTION	F5
SELECT	F6
START	F7
BREAK	F8

TROUBLESHOOTING

POWER INDICATOR DOES NOT LIGHT

To turn on **THE400 Mini**, press the power button once. If after a few seconds the power indicator does not light and you see nothing on the TV, check that you are using a suitable 5V/1A (5W) USB power adapter, and that the power adapter is working. Unplug any controllers or USB sticks that you have attached to **THE400 Mini**. Also check the power cable and test by exchanging it for a known working cable.

BLANK SCREEN SEEN ON THE TV

If **THE400 Mini** power indicator is lit but the TV shows no picture, check the HDMI cable is correctly connected at both ends, and if necessary try a different cable that is known to be working. Also it may be that **THE400 Mini** power indicator is lit but the TV shows no picture, check the HDMI cable is correctly connected at both ends, and if necessary try a different cable that is known to be working. Also it may be that **THE400 Mini** is using a video output mode that your TV does not support. See ***"I have chosen a video output mode that is not supported by my TV" [page 33]***.

NO SOUND HEARD FROM MY DVI MONITOR

THE400 Mini is not designed to be used with a DVI monitor nor is it supported when done so. **THE400 Mini** may appear to be compatible with DVI monitors through an HDMI-to-DVI converter, but the DVI standard does not support audio, so even if you see a picture you will hear no sound. It may be possible to use a converter that is capable of feeding audio separately, but this is done at the user's own risk.

THECXSTICK IS NOT RESPONDING

Do not unplug or plug in a **THECXSTICK** while a game is running as they may stop responding. If this happens give the power button a short single press. This will suspend the current game and return you to the *Game carousel*. After a few seconds **THECXSTICK** should be detected, but if not, unplug the input device and then plug back in after 5 seconds.

I HAVE CHOSEN A VIDEO OUTPUT MODE THAT IS NOT SUPPORTED BY MY TV

If you have accidentally chosen an output mode in *Television settings* that your TV cannot display, or are now using a TV that doesn't support that mode, you will have to perform a factory reset to change the output mode. This can be done in two ways:

1. Plug THE400 Mini into a TV that does support the current output mode and then navigate to Options → Advanced settings → Factory reset (See ***"Factory reset" [page 17]***).

   Or,

2. Force a factory reset. If turned on, turn THE400 Mini off by pressing and holding the power button for approximately two seconds (until the power indicator goes out). Wait 10 seconds. Perform the factory reset by pressing and holding the power button until the welcome logo appears.

Once the factory reset is complete, you will then be guided through the initial setup sequence which includes choosing an output mode supported by the TV (See ***"First-time setup" [page 5]***).

Note: Forcing a factory reset will delete your *Saved games* and *settings*.

THE TV PICTURE APPEARS TO LAG BEHIND THE GAME ACTION

HD TVs usually employ digital processing of the incoming TV picture. Aware of how this affects video games, they usually provide a setting to enable a "gaming mode" (or a similarly named feature). Ensure that you enable this setting in your TV for the HDMI input channel you are using for **THE400 Mini**.

USB STICK IS NOT RECOGNISED

THE400 Mini will only recognise USB sticks that are formatted with the FAT32 filesystem with a Master Boot Record (MBR). This is a standard format that can be created with all operating systems.

THE400 MINI GETS WARM

This is normal. **THE400 Mini** contains a powerful processor that works very hard to recreate the authentic gaming experience of the original Atari 8-bit computer, and in doing so it generates a little heat. **THE400 Mini** contains a lot of vents on the upper, rear, and lower surfaces of the case for this reason, and it is important not to block or impede this ventilation (see ***"Ventilation" [page 1]***). **THE400 Mini** should be moved away from other sources of heat and ensure that there is plenty of airflow around the case.

THE PROGRAM I HAVE IS NOT WORKING

We cannot give help for third-party programs. Please reach out to the many community support forums and facebook groups for help.

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